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AUTHOR Hartley, Mike
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ABSTRACT

This paper examines current standards and procedures used in rope and climbing courses and offers alternatives to standard practices. The techniques and issues covered include belay techniques, belay signals, and the use of the initiative wall. Current techniques are often not the most efficient or even the safest, but they have stood the "test of time." Departing from standard techniques opens the door for increased safety and liability risks in addition to the criticism of peers. For example, the current method of teaching belaying, a method for securing a hold during climbing, is one that has evolved over the years from the hip belay. Though effective, hip belaying is an exacting technique that offers little room for error. As a result, few climbers or programs use a hip belay. A simpler method of belaying is described and diagramed that is especially suited for nonskilled groups. Standard belay signals can be confusing to learn, especially for non-skill-oriented groups. Traditional signals are listed with simpler alternatives. Other suggestions include an alternative backup knot for the figure 8 knot and a miniature hacksaw for rope cutting. Finally, this paper suggests that using a belay on the initiative wall is a much safer practice than the traditional technique of using only spotters. (LP)

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Questioning Tradition: Alternative Safety Techniques and Procedures for Ropes Course and Climbing Programs

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Mike Hartley
Adventure Designs
P.O. Box 31
Colorado SPrings, CO 80901
(719) 635-8667

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Abstract

Tired of spending 45 minutes teaching students to belay only to still have a third of the class occasionally take their brake hand off the rope? In line with the conference theme of tradition and our future, this workshop will look at numerous current standards and procedures used in adventure education. Has tradition "blinded" us to new and better techniques while perpetuating many unsafe practices? Topics such as the risk/benefits to be gained from departing from tradition will also be discussed. A sampling of the techniques/issues to be covered include:

Belay Techniques - Learn a simple method that takes 5 minutes to teach and virtually eliminates mistakes.

Belay Signals - Many of our students spend an entire day belaying and still can't pronounce or relate to the signals that we use. Alternative signals will be suggested.

Initiative Wall - The initiative wall has been shown by several safety studies to be one of the highest risk ropes course activities yet has always traditionally been done without a belay. Standard procedures for bouldering for many programs are that no one shall climb to a height greater than that of their spotters head without a belay. Why are we excluding a 12-14 foot wall?

Introduction

In line with the conference theme of tradition and our future, this workshop will look at numerous current standards and procedures used in adventure education. Has tradition "blinded" us to new and better techniques while perpetuating many unsafe practices? In a number of cases regarding standard climbing procedures I believe it has.

Exploring new techniques that vary from current "standards" can be a scary proposition. Whether the standard techniques used are the best or not, there is in a sense "strength in numbers"—conforming to the practices of many other agencies. Though often not the most efficient or even the safest, these techniques have stood the "test of time". Departing from them opens the door for increased safety and liability risks in addition to the criticism of peers. Therefore any program or programmer that explores new terrain should have a well thought out reason for doing so. **It should go without saying that all new procedures and techniques require thorough training and must be tested before using with clients.**

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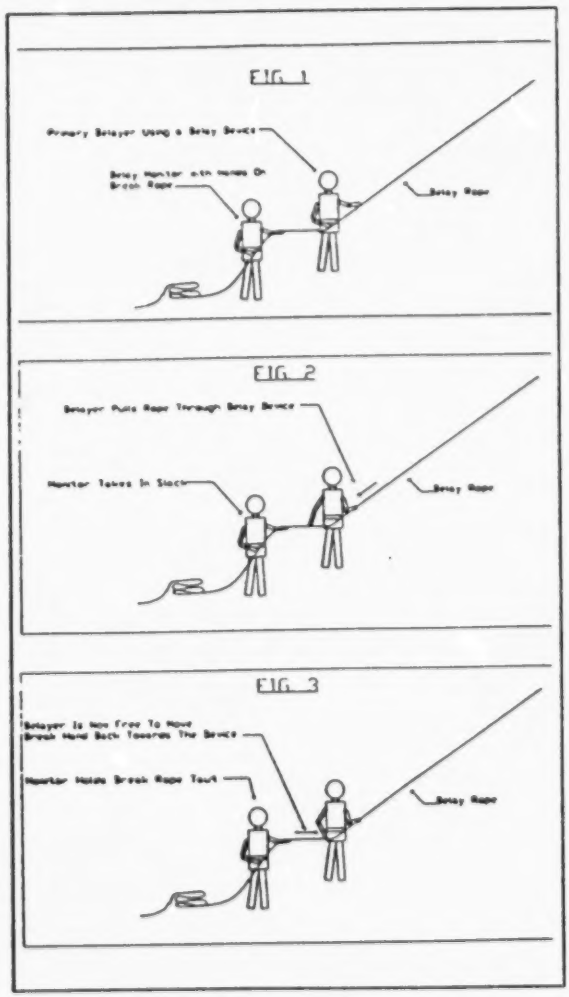
The following suggestions are an eclectic collection of ideas gathered over the years. They are offered in the hopes of stimulating debate with the end product being new and better procedures for programs and our clients.

I. Belay Technique:

The current method of teaching belaying (pull, slide, pinch, drop, etc.) is one that has evolved over the years from the hip belay. Though effective, hip belaying is an exacting technique that offers little room for error. It is frequently performed incorrectly even by experienced climbers in regards to brake hand placement, rope management, and relative position to the belay anchors. The above teaching method helps to maintain the high degree of control necessary when hip belaying. The reality of today is that few climbers or programs use a hip belay.

Unfortunately, the above method is confusing for students to learn. It is equally frustrating for both staff and students that 15 minutes after correctly practicing it, a student may once again have to relearn the process. Add a locking carabiner, belay device, and possibly a belay loop which may extend 8" away from the harness and you've further compounded the problem. Incidents of students removing their brake hand from the rope are commonplace.



For students who are interested in learning technical skills, struggling with the basics is a necessary process. But what about clients who are not interested in developing their climbing skills? Many clients from therapeutic, managerial, and team development groups have no interest in pursuing climbing and may never use those skills again. They are simply using the tools that day to help them to achieve other goals. For those students a much simpler method of instruction is available. If an alternative method is used, it must be pointed out to students that the method being taught is not standard but one that has been adapted to meet their needs.

While there are several alternative methods available, the following is the simplest for students to learn. An assumption made is that no beginning belayer should ever belay without a backup or monitor holding the brake rope in case of a mistake. The consequences are just too severe.

Figure 1 shows a primary belayer holding the rope with a monitor standing beside them. The actual belay device is not drawn but could be any approved device (stitch plate, figure 8, tuber, etc.). This article is not meant to be a basic training and assumes that the reader is already skilled in basic belaying.

Figure 2 shows the belayer and monitor taking in slack at the same time. With the monitor firmly holding the brake rope, the belayer can now easily slide the brake hand back towards the device as in figure 3. I teach this method on a individual basis with students when it is their time to belay. It takes a maximum of 5 minutes to teach and has reduced the incidents of hands coming off of the brake rope to zero in 2 years of usage. See what you think!

II. Belay Signals:

Learning the standard signals of "belay on?" "on belay!" etc. is certainly essential for those groups where the participants are interested in continuing climbing. For non-skills oriented groups though, this is a historical practice worth questioning. How many of us have worked all day with a group only to have a large number of students still not correctly pronouncing or relating to the signals used? The staff of the West Pines Psychiatric Hospital in Wheatridge, Colorado have been using some simple substitutions that warrant a good look. Some alternatives are suggested below.

Traditional	*Alternatives*
"ON BELAY?"	"AM I SAFE?"
"BELAY ON!"	"YOU ARE SAFE!"
"UP ROPE!"	"TAKE IN ROPE!"
"CLIMBING"	"MAY I CLIMB?"
"CLIMB ON"	"CLIMB WHEN READY"
"SPOTTERS READY?"	"READY TO SUPPORT ME?"

As was discussed in the above section on belaying, it is important that students know that these are -
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not the standard signals used in rockclimbing. Few will care. It is also important that all program staff have a consistent policy regarding the signals to be used to avoid confusion or possible mistakes.

The above suggestions are meant for non-technically oriented groups but standard signals are evolving even in the world of technical climbing. For example yelling "up rope!" as opposed to "take!" at many climbing areas will automatically brand you as either a beginner or an "old fart"! While I am not advocating changing to "take!" at this point I do believe that as a field we need to maintain the flexibility to change even the most ingrained standards if they become out of touch with the mainstream.

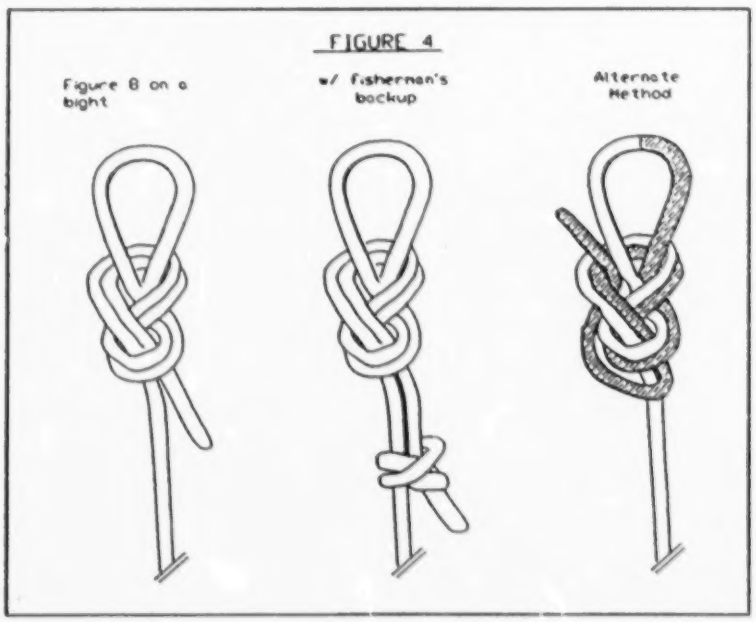
III. Backup Knows for a Figure 8 Follow Through:

It is generally considered a standard that when tying into a harness with a figure 8 follow through that the tail be backed up by an additional knot such as an overhand or fisherman's knot. Several problems are associated with such backups. First, they are often difficult for students to tie close to the figure 8. When tied out away from the 8 the result is a bulky knot waiting to hit the top roped climber in the neck or face as soon as the belayer yanks up slack. For the lead climber, it one more thing to get in your way when you are desperately reaching for the rope to clip in! Additionally, a number of the knots used as backups are notorious for coming untied. Students who have heard the backup called "the safety knot" are rightfully terrified when they look down while climbing to see their "safety" untied.

Though it is often misunderstood, the primary purpose for having a backup knot is not to make sure that the primary does not come untied. It is almost unheard of for a properly tied figure of 8 to accidentally untie itself. The backup assures that the tail of rope emerging from the figure 8 is long enough so that the force of a fall will not pull the tail back through the knot. If you can tie a backup knot, then the tail is long enough.

I first heard of the following alternative in a short article written by Ron Olevsky, a well known Utah climber. I have personally been using it for over 3 years and find it clean and secure.

As always, staff need to double check students (and each other) when using this method. I have caught students taking the tail and threading it back into the same hole in the figure 8 that it just emerged from. In essence, untying their original figure 8!



IV. Ropes Course Rescue Tool:

The knife is rightfully frowned upon in rescue work, for good reason, but I have never been fully satisfied with the alternatives available. The best thing around seemed to be a pair of heavy duty, "paramedic" shears--beefy scissors. While this a handy tool for cutting many items, it left much to be desired when cutting through fat 11mm rope. Rescuer's with less than linebacker sized forearms often ended up sawing through half of the rope before they could get enough leverage to actually start cutting.

Ben Murray, a Sterling, Colorado fireman, turned me on to a cheap and very effective tool; a Stanley "Mini-Hack" miniature hacksaw. The unit is about 9" long, has a nice handle, a rounded tip so you don't accidentally stab yourself in the leg, will walk through fat rope in seconds, and cost less than $10.00. Attach it to your harness with a short piece of 3/16" shockcord and forget about accidentally dropping it. Pretty hard to beat!

V. Initiative Wall Belays:

The initiative wall, at the right time with the right group, can be one of the most powerful activities available. It can also be one of the most frightening to facilitate. Having a tiring student 12+ feet above you trying to hang a heel hook can really get your adrenalin up!

Traditionally, this event has always been done using only spotters. It is worth questioning if this is a standard that is maintained simply because of the historical precedent.

First of all, the Wall has been documented by several studies as one of the highest injury rate "low" activities. Its injury rate is only slightly lower than the Electric Fence which has been discouraged by many challenge course trainers. Secondly, when compared to other adventure activities, this policy is inconsistent. Many agencies require a belay for their climbing programs whenever the climber/boulderer reaches a height greater than that of the spotter's head. It is difficult to imagine many climbing programs allowing a student to "boulder out" a 14 foot high boulder problem that required a heel hook with only spotters for safety.

It is a simple matter on many Walls to add a belay cable and use a standard top-roped belay. Some may question if using a rope will diminish the impact of the activity. After using a belay on the Wall for over 5 years I have not found this to be the case. The "perceived risk" is not lessened for students at all--only the real risk.